

ATTORNEY'S DOCKET NO: C0988/7001 PJG/EJR  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Michael L. J. Hackney

Serial No.: 08/888,027

Filed: July 3, 1997

FOR: SYSTEM AND METHOD FOR SYNCHRONIZING AND SERVING  
MULTIMEDIA CONTENT

Examiner: Zarni Maung

Art Unit: 2758

**COPY**

CERTIFICATE OF FACSIMILE TRANSMISSION 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being facsimile transmitted to the United States Patent and Trademark Office to the attention of Examiner Zarni Maung, Washington, D.C. 20231. FAX No. 703-305-7201 on the 24th day of November, 1999.

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to examination, please amend this Application as follows:

IN THE CLAIMS

Please amend the following claims:

Claim 1, line 5, please change "provides a indication" to --provides an indication--;

Claim 8, line 7, after "modification information;" please insert --and--;

Claim 21, line 2, please change "objets" to --objects--.

Please add the following claims:

--23. A method for serving multimedia content in a distributed network, the network including a synchronization server that maintains synchronization of distributed objects with at least one client, the method comprising steps of:

maintaining, by the synchronization server, a first object;  
creating, on the client, a second object and synchronizing the second object to the first object;  
maintaining, by the synchronization server, a list of one or more clients that are synchronized to the first object; and  
sending an update event to the one or more clients on the list.

24. The method according to claim 23, wherein the first object is located at the synchronization server.

25. The method according to claim 23, wherein the first and second objects are room objects.

26. The method according to claim 23, wherein the step of sending includes sending an update event only to clients on the list.

27. The method according to claim 23, wherein the update event includes location information of an updated multimedia resource.--

### IN THE SPECIFICATION

Please amend the Specification as follows:

Page 1, line 26, please change "is the synchronization" to --includes the synchronization--.

### REMARKS

This is a preliminary amendment in which Applicant has amended and added claims. To further the prosecution of this Application, Applicant respectfully submits remarks with respect to the patentability of the claims. Claims 1, 8, and 21 have been amended. Claims 23-27 have been added. Therefore, claims 1-27 are now pending in this application. No new matter has been added. In response to the Office Action dated March 18, 1999 received in connection with the prior Application, please consider the following remarks prior to examination of this Application.

### Rejections Under 35 U.S.C § 103

In the Office Action received March 18, 1999, claims 1-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cook et al. (U.S. Patent Number 5,727,950). Applicant

respectfully requests that the Examiner consider the following remarks prior to examination on the merits.

Cook is directed to a system an method for individualized computer assisted instruction of students (Col. 1, lines 53-54). More particularly, the system includes an agent adapted to that student to monitor the student's instructional behavior (Col. 1, 56-58). The system may be adapted to function on a network, and, when so implemented, the interactive, adaptive, and self-paced computer-assisted instruction and homework provided by this system is provided to geographically dispersed students and geographically dispersed schools (Col. 6, lines 37-42).

The system of Cook provides "Agent Based Instruction" (ABI) which provides the individualized instruction (Col. 5, lines 12-15). The agent is provided which is unique to each student (Col. 12, lines 35-36). A student's agent comprises agent software (item 108 of Fig. 1) in conjunction with a student data object 109 unique to each student (Col. 12, lines 36-38). An agent manages or controls instruction of student 101 by directly controlling a materials engine 102 in its presentation of materials data 104, 114 and 115 through interaction with between the materials engine and the agent shown by arrow 111 (Col. 12, lines 48-51). The agent controls in two manners, either synchronous with material presentation, or asynchronously with the presentation (Col. 12, lines 51-58). In either case, the materials can present interactive instruction according to each student's pedagogic characteristics or cognitive styles of each student as determined by the agent's observation of the student (Col. 13, lines 3-6).

Cook does not render obvious that which is recited in claim 1. Specifically, Cook does not teach or suggest a "synchronization server [that] provides an indication of an update to a multimedia resource to the clients, and the content server provides content information to the clients based upon the indication provided by the synchronization server," as recited in claim 1. Cook teaches a system that tailors a presentation to an individual user based on their feedback to an agent, whereas the system a recited in claim 1 includes a "synchronization server" that "provides an indication of an update to a multimedia resource to the clients." Cook does not update other clients based on the feedback received from an individual user; Cook tailors the presentation in a synchronous or asynchronous fashion to the individual student based on this feedback. Therefore, because Cook does not provide updates to other students or other agents of other students, Cook is incapable of "providing an indication of an update" as recited in claim 1. Thus, because Cook does not teach or

suggest the "synchronization server" as claimed, Cook does not render obvious that which is recited in claim 1. Claims 2-7 depend from claim 1 and are allowable for at least the same reasons.

Regarding independent claim 8, Cook does not render obvious that which is recited. As discussed above with respect to claim 1, Cook does not teach or suggest a synchronization server. Further, Cook does not teach or suggest a method comprising steps of "maintaining the current state synchronization information for a shared resource on a synchronization server; modifying, on one of the plurality of clients, the shared resource by providing modification information and location information for the shared resource; updating the shared resource according to the modification information; and producing an updated shared resource and updated location information," as recited in claim 8. Cook is a server that interfaces with a student on an individualized basis; Cook does not maintain synchronization information between clients, or allow a client to update a shared resource. Cook merely uses information from an individual to adapt the presentation for the individual, not to synchronize a multimedia resource that is shared among a plurality of users. Also, nowhere does Cook disclose a system that provides "location information" and "updated location information." The materials in Cook are static materials provided on servers on the network (Please see Col. 17, line 59-Col. 18, line 9), and thus they are not updated by clients, nor is updated location information of a multimedia resource provided by Cook. Therefore, for at least these reasons, claim 8 is not rendered obvious by Cook. Claim 9 is allowable for at least the same reasons.

Regarding independent claim 10, Cook does not render obvious that which is recited. In particular, Cook does not disclose a "database server having an object database" and a content server that "enters resource information for each of the plurality of multimedia resources into the object database," as recited in claim 10. As discussed, Cook stores materials presented to individual students as files of a conventional file system (Please see Col. 12, lines 24-27), not an object database as recited in claim 10. Thus, Cook is incapable of storing resource information of a multimedia resource in such an object database. By contrast, according to various embodiments, a system is provided which stores resource information, for example, location information including a link specifying a location of the multimedia resource on a content server. Thus, claim 10 is not rendered obvious by Cook. Claims 11-16 depend from claim 10 and are allowable for at least the same reasons.

Regarding independent claim 16, Cook does not render obvious that which is recited. As discussed above with respect to claim 10, Cook does not teach or suggest entering resource

information for a plurality of multimedia references in an object database. Cook merely stores materials presented to students as files of a conventional file system (Please see Col. 12, lines 24-27). Therefore, claim 16 is not rendered obvious by Cook.

Regarding independent claim 17, Cook does not render obvious that which is recited. As discussed above, Cook does not store resource information such as location information in a database; thus Cook is incapable of performing a step of "executing, based on a selection of a desired course, a query to determine a location for the desired course, as recited in claim 17. Cook merely stores materials presented to students as files of a conventional file system (Please see Col. 12, lines 24-27). Therefore, claim 17 is not rendered obvious by Cook. Claim 18 depends from claim 17 and is allowable for at least the same reasons.

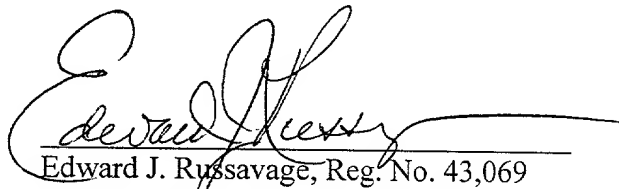
Regarding independent claim 19, Cook does not render obvious that which is recited. As discussed above with reference to claims 10 and 17, Cook does not store resource information such as location information for a multimedia resource in a database; thus Cook cannot perform a step of "executing a query to determine at least one multimedia reference associated with a desired course" and a step of "providing, based on a selection of the desired multimedia reference, a location of the desired multimedia resource," as recited in claim 19. Therefore, Cook does not render obvious that which is recited in claim 19. Claims 20-22 depend from claim 19 and are allowable for at least the same reasons.

Claims 23-27 were added to further define the Applicant's contribution to the art.

An early and favorable action is hereby solicited.

If there is any fee occasioned by this response, including an extension fee, please charge the fee to Deposit Account No. 23/2825.

Respectfully submitted,



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Docket No. C0988/7001

Dated: November 24, 1999

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ATTORNEY'S DOCKET NO: C0988/7001 (EJR/PJG)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

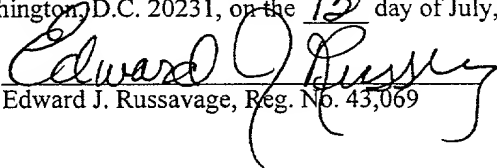
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MULTIMEDIA CONTENT

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Art Unit: 2758

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CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 12 day of July, 2000.

  
Edward J. Russavage, Reg. No. 43,069

Commissioner for Patents  
Washington, D.C. 20231

SUPPLEMENTAL AMENDMENT

Sir:

In response to the Office Action mailed June 12, 2000, and, in supplement to the response filed May 17, 2000, please amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

8. (Amended) A method for synchronizing and serving multimedia content in a distributed network, the method comprising the following steps:

maintaining the current state synchronization information for a shared resource on a synchronization server;

modifying, on one of a plurality of clients, the shared resource by providing modification information and location information for the shared resource;

updating the shared resource according to the modification information; and

producing an updated shared resource and updated location information.

23. (Amended) A method for serving multimedia content in a distributed network, the network including a synchronization server that maintains synchronization of distributed object-oriented software objects with at least one client, the method comprising steps of:

maintaining, by the synchronization server, a first object-oriented software object;

creating, on the client, a second first object-oriented software object and synchronizing the second object to the first object;

maintaining, by the synchronization server, a list of one or more clients that have one or more objects that are synchronized to the first object; and

sending an update event to the one or more clients on the list.

### REMARKS

In response to the Office Action mailed June 12, 2000, Applicants respectfully request reconsideration.

Claims 1-9 and 23-27 have been examined. By this amendment, Applicants have amended claims 8 and 23. As a result, claims 1-9 and 23-27 are pending with claims 1, 8, and 23 being independent claims. No new matter has been added.

Claims 1-7 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully disagree. In particular, as recited in claim 1, the synchronization server provides an indication of an update to a multimedia resource to a client. This may be performed, for example, by signaling to a client that an update to a resource (such as an updated web page, for example) is available. The signal may indicate, for example, the location of the resource, such as a URL or address. The content server, in response to the indication, may provide content information to the clients based upon the indication provided by the synchronization server. This providing, for example, may be performed upon request of the client in response to the indication, or may be performed by the content server, which may push updates to the client in response to the indication. Thus, Applicants believe the claims are clear, and that the rejection should be withdrawn. Claims 2-7 are allowable for at least the same reasons.

### Rejections Under 35 U.S.C. 102

Claims 1-9 and 23-27 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 5,915,091 issued to Ludwig et al. (hereinafter "Ludwig"). Applicants respectfully traverse the rejection.

Ludwig is directed to a multimedia collaboration system that uses separate real-time and asynchronous networks to communicate data (Please see Abstract). The former is used to distribute real-time audio and video, and the latter is used to distribute textual, graphical, and other data (Abstract). The area of Ludwig cited by the Examiner is Col. 29, line 23 through Col. 33, line 63. In particular, this section states that a Real-Time Audio/Video Storage Server 502 provides synchronous audio and video at its signal outputs (Col. 29, lines 30-41). Synchronization between audio and video is provided by interleaving audio and video streams in a time-division-multiplexed fashion (Col. 31, lines 16-20). Further, the system provides synchronization between window events and/or video streams (Col. 29, lines 47-49). If synchronization is required with other stored media, then frame numbers, time codes or other timing events are generated at the storage server (Col. 31, lines 19-23).

By contrast, independent claim 1 recites a system for synchronizing and serving multimedia content in a distributed network, the system comprising a synchronization server; a content server; and a plurality of clients, wherein the synchronization server provides a indication of an update to a multimedia resource to the clients, and the content server provides content information to the clients based upon the indication provided by the synchronization server.

Ludwig does not anticipate that which is recited in claim 1. In particular, Ludwig does not disclose "a synchronization server; a content server; and a plurality of clients, wherein the synchronization server provides a indication of an update to a multimedia resource to the clients, and the content server provides content information to the clients based upon the indication provided by the synchronization server," as recited in claim 1. Ludwig provides interleaved streams of audio and video data, or provides frame numbers and time codes to synchronize other forms of media to stream data. Thus, Ludwig either synchronizes streams of data with one another, or synchronizes non-stream data with streamed data using frame number or time codes. Ludwig does not disclose two servers, one of which provides an indication of an updated resource, and another that provides content information based upon the indication. Such an indication, may be, for example, an updated link specifying a location of an updated resource as described on Page 12, lines 18-23 of the Specification. In response, the updated information may be pushed by the content server or pulled by the client in response to the indication. Therefore, Ludwig does not anticipate that which is recited in claim 1, and the rejection should be withdrawn. Claims 2-7 depend from claim 1 and are allowable for at least the same reasons.



Independent claim 8 recites a method for synchronizing and serving multimedia content in a distributed network. The method comprises the following steps: maintaining the current state synchronization information for a shared resource on a synchronization server; modifying, on one of a plurality of clients, the shared resource by providing modification information and location information for the shared resource; updating the shared resource according to the modification information; and producing an updated shared resource and updated location information.

Ludwig does not anticipate that which is recited in claim 8. In particular, Ludwig does not disclose steps of “maintaining the current state synchronization information for a shared resource on a synchronization server; modifying, on one of a plurality of clients, the shared resource by providing modification information and location information for the shared resource; updating the shared resource according to the modification information; and producing an updated shared resource and updated location information,” as recited in claim 8. As discussed above with reference to claim 1, Ludwig maintains synchronization between streams of data, or non-stream data and stream data. Ludwig does not teach or suggest a server that provides location information for the shared resource, and updating the shared resource and providing updated location information. Ludwig teaches transmitting, over a multimedia local area network (MLAN), video and audio information in stream format, the streams being synchronized with each other (Please see Col. 5, line 58 through Col. 7, line 37 and Col. 29, lines 23-40 of Ludwig). Therefore, Ludwig does not anticipate that which is recited in independent claim 8, and the rejection should be withdrawn. Claim 9 depends from claim 8 and is allowable for at least the same reasons.

Independent claim 23 recites a method for serving multimedia content in a distributed network, the network including a synchronization server that maintains synchronization of distributed object-oriented software objects with at least one client, the method comprising steps of: maintaining, by the synchronization server, a first object-oriented software object; creating, on the client, a second object-oriented software object and synchronizing the second object to the first object; maintaining, by the synchronization server, a list of one or more clients that have one or more objects that are synchronized to the first object; and sending an update event to the one or more clients on the list.

Ludwig does not anticipate that which is recited in claim 23. In particular, Ludwig does not disclose a “maintaining, by the synchronization server, a first object-oriented software object; creating, on the client, a second object-oriented software object and synchronizing the second

object to the first object; maintaining, by the synchronization server, a list of one or more clients that have one or more objects that are synchronized to the first object; and sending an update event to the one or more clients on the list," as recited in claim 23. As discussed above with reference to independent claims 1 and 8, Ludwig is concerned with synchronizing streams of data, or synchronizing non-stream data with stream data. Ludwig is not concerned with synchronizing object-oriented software objects. Therefore, Ludwig does not anticipate that which is recited in claim 23, and the rejection should be withdrawn. Claims 24-27 depend from claim 23 and are allowable for at least the same reasons.

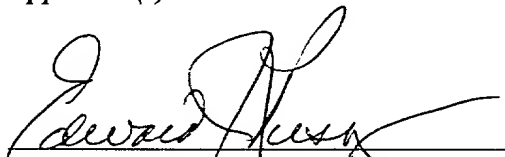
### CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted  
*Michael L.J. Hackney, et al.,*  
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By:

  
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Docket No. C0988/7001 (EJR/PJG)

Date: July 12, 2000

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